

Title (en)
DISPENSING SYSTEM

Title (de)
AUSGABESYSTEM

Title (fr)
SYSTÈME DE DISTRIBUTION

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Application
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Abstract (en)
A dispensing system, comprising: a housing; a reservoir secured to the housing; a cavity located in an upper portion of the reservoir, wherein the cavity is configured so that air in the reservoir migrates to the cavity; an air passage extending upward from the cavity; a liquid passage extending upward from the reservoir; a bottom of the liquid passage being located below a bottom of the air passage; at least one engagement member, wherein the engagement member is configured to mate with a refill container; a pump having a pump chamber in fluid communication with the reservoir; an outlet nozzle in fluid communication with the pump chamber; and a refill container configured to be releasably attached to the reservoir such that the refill container is in fluid communication with the reservoir through the at least one engagement member; the refill container having at least one sealing member

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Citation (applicant)

- US 201715429389 A 20170210
- US 201615369007 A 20161205
- US 201615355112 A 20161118
- US 201615350190 A 20161114
- US 201615356795 A 20161121
- US 201715480711 A 20170406
- US 7303099 B2 20071204 - OPHARDT HEINER [CA]
- US 8002150 B2 20110823 - OPHARDT HEINER [CA], et al
- US 8091739 B2 20120110 - OPHARDT HEINER [CA], et al
- US 8113388 B2 20120214 - OPHARDT HEINER [CA], et al
- US 8272539 B2 20120925 - OPHARDT HEINER [CA], et al
- US 8272540 B2 20120925 - OPHARDT HEINER [CA], et al
- US 8464912 B2 20130618 - OPHARDT HEINER [CA], et al
- US 8360286 B2 20130129 - SHI ZHENCHUN TONY [CA], et al
- US 62293931 P
- US 62257008 P
- US 8172555 B2 20120508 - REYNOLDS AARON R [US]
- US 2008277421 A1 20081113 - ZLATIC DOUG [US], et al
- US 2014367419 A1 20141218 - HARRIS DONALD R [US], et al
- US 7837066 B2 20101123 - REYNOLDS AARON R [US], et al
- US 9172266 B2 20151027 - CURTIS CHIP W [US], et al
- US 7909209 B2 20110322 - REYNOLDS AARON R [US], et al
- US 7611030 B2 20091103 - REYNOLDS AARON R [US], et al
- US 7621426 B2 20091124 - REYNOLDS AARON R [US], et al
- US 8960498 B2 20150224 - WEGELIN JACKSON W [US], et al
- US 9936840 B2 20180410 - HARRIS DONALD R [US], et al
- US 9038862 B2 20150526 - MCNULTY JOHN J [US], et al
- US 9949599 B2 20180424 - HARRIS DONALD R [US]
- US 9648992 B2 20170516 - HARRIS DONALD R [US], et al
- US 9648990 B1 20170516 - CORNEY RICHARD E [US]
- US 6126045 A 20001003 - LAST LAURENS [MC]
- US 201762492622 P 20170501
- US 201815967815 A 20180501
- US 201815968082 A 20180501

Citation (search report)
[X] US 4316555 A 19820223 - SMITH RANDEL P

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